

ABSTRACT OF THE INVENTION

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The present invention relates to an optical transmitter having the structure for enabling output of high-power light signals while effectively suppressing occurrence of the nonlinear optical phenomena, particularly, SBS, and an optical communication system provided therewith. The optical transmitter comprises a modulation signal source for outputting modulation signals of the frequency not more than 20 kHz, a semiconductor laser source for outputting laser light amplitude-modulated according to the modulation signals from the modulation signal source, an optical amplifier for amplifying the laser light from the semiconductor laser source, and a modulation depth control system for controlling a ratio of an amplitude modulation depth of amplified laser light outputted from the optical amplifier to an amplitude modulation depth of the laser light outputted from the semiconductor laser source. Particularly, the modulation depth control system controls the amplitude modulation depth of the amplified laser light outputted from the optical amplifier at least in the range of 60% or less of the amplitude modulation depth of the laser light inputted into the optical amplifier.